Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Improving Public Safety Communications	)	
in the 800 MHz Band	)	WT Docket 02-55
	)	
Consolidating the 900 MHz Industrial/Land	)	
Transportation and Business Pool Channels	)	

REPLY COMMENTS OF THE PUBLIC SAFETY IMPROVEMENT COALITION

The Cities of Cincinnati, District of Columbia, Philadelphia, Phoenix, San Diego, Scottsdale and Tucson, together with the Counties of Anne Arundel (Maryland), Fauquier (Virginia), Hamilton (Ohio), Osceola (Florida) and San Diego (California), and the Greater (Denver) Metro Telecommunications Consortium ("GMTC"),[1] hereafter Public Safety Improvement Coalition ("PSIC"), hereby reply to the comments of others in the captioned proceeding.[2] In its Comments of May 6, 2002, PSIC agreed with the Notice of Proposed Rulemaking ("Notice") that it was time to move beyond the *ad hoc* mitigation approaches of the recent past and seek national or regional solutions to the demonstrated and growing problem of commercial interference to public safety radio systems at 800 MHz.

PSIC members also said that (a) if forced to relocate or retune, public safety systems should be fully compensated for the total costs, direct and indirect, of their prudently chosen

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[1] GMTC is a board of local government representatives comprised of 28 communities in the greater metropolitan Denver, Colorado area. A GMTC membership directory can be found at www.gmtc.org.

[2] The original reply date of June 4, 2002 has been extended twice, most recently to August 7th. Order, DA-02-1523, released June 27, 2002.

modifications[3]; (b) choices among more interference-resistant receivers for public safety and increased signal levels for public safety systems, on the one hand, and reduced out-of-band emissions and diminished signal levels for commercial systems, on the other hand, should be fairly balanced. Public safety, we stated, should not have to foot the lion's share of the bill by purchasing super-selective receivers or adding multiple antennas. (Comments, 3)

The voluminous and varied comments have only confirmed our adherence to these principles. Perhaps the largest single bloc of commenters, dominated by electric power companies and other utilities, maintains that no single spectrum realignment plan can benefit all interested parties and recommends continued local mitigation efforts, including swapping of frequencies between public safety and commercial entities. Surely such efforts will have to continue during any transition to realigned frequencies, but we cannot accept them as an answer for the long term. This kind of remedy is prone to delay when neither side is fundamentally at fault. Public safety simply cannot tolerate for long the risk that life-saving or property-guarding communications continue to fail while these remedies await implementation.

A similar timing difficulty arises from the solution proposed by the next-largest bloc of commenters. A mix of public carriers and private users of radio spectrum, including some public safety licensees and consultants, advocate moving public safety to 700 MHz over the longer term -- particularly now that commercial auction of the upper band and much of the lower band has been postponed indefinitely. But the "longer term" is essentially open-ended. While Congress has set 2006 as the year by which TV licensees must depart the portion of 700 MHz spectrum

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[3] We recognize that in previous spectrum relocations, such as the clearing of PCS providers to move into fixed microwave spectrum at 2 GHz, payments of premiums above cost were permitted. We think that may be appropriate here, but not if public safety systems in less desirable locations are left to the mercies of the marketplace. At a minimum, public safety systems must fully recover the costs of moves or modifications -- and preferably up front.

reserved for public safety, the seemingly slow pace of digital TV penetration puts that deadline at risk.[4]

Time for an anticipatory process. In the newly-released Third Memorandum Opinion and Order resolving certain petitions for reconsideration in WT Docket No. 99-168, the FCC wrote:

> [W]e establish "mandatory coordination zones" near public safety base stations, within which commercial base station operators will be required to coordinate their operations with public safety licensees. This will establish an anticipatory, rather than reactive, process for controlling interference to public safety operators in the upper 700 MHz band.[5]

While the action does not extend, by its terms, to commercial interference to public safety radio at 800 MHz, the concept of an "anticipatory process" for interference control is equally applicable to local governments that have been trying to work in that band with wireless carriers to mitigate the threat to life and property protection.

The Commission adopted the "mandatory coordination zones"[6] in the upper 700 MHz band while rejecting petitioners' calls for a "zero tolerance" approach to commercial interference to public safety. The order hesitated to delegate broadly "to an interested party or parties" the presumption that a "noise floor" increase signified intolerable commercial interference. Nevertheless, the Commission continued:

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[4] Sections 309(j)(14) and 337(a) and (e) of the Communications Act, as discussed, *inter alia*, in First Report and Order, WT Docket 96-86, 14 FCC Rcd 152 (1998).

[5] FCC 02-204, released July 12, 2002, ¶1.

[6] Protection zones around public safety transmitters, of course, address only a relatively minor part of the interference problem. Far greater is the threat of overloading public safety portables used in the vicinity of commercial transmitters.

> Although we have not considered whether such an approach comports with the statutory mandates to enable commercial services as well as protect public safety services, such a method for protecting public safety operations may deserve Commission consideration if more thoroughly developed.[7]

PSIC respectfully submits that now is the time to more thoroughly develop an anticipatory process to protect public safety radio. This could occur through a further notice in this docket, or by the immediate opening of another proceeding to run as much in parallel as possible.

Priority for public safety. Whatever spectrum re-banding solutions are adopted here -- and in the continuing mitigation efforts which are our only interim recourse -- safeguards should be preventive rather than reactive. If the increased noise floor concept remains unacceptable, then public safety should be granted priority, or given at least a presumption of priority, over any demonstrated commercial source of interference. We need to resolve the impasse created by current policy that assumes equal stature for commercial and public safety licensees if both are operating within the bounds of their licenses.

Prevention of interference, through anticipatory processes or via priority for public safety, would relieve some of the pressure in the ultimate choice of re-banding. We turn now to the several proposals for realignment of public safety and commercial uses within the 800 MHz band. We are comfortable with the idea that digital SMR carriers such as Nextel ought to move before public safety is asked to do so. We are seconded in this by the State of Maryland, IAFC/IMSA, AEP, E.F. Johnson, MACOM and Maui County, among others. It was the transformation from analog conventional to digital wide-area SMR that caused the present interleaved assignments to break down. (Notice, ¶¶13-15).

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[7] FCC 02-204, ¶27, n.45.

The APCO/Nextel/Private Wireless Coalition "compromise plan." We have been provided with a mid-July draft of an attempted compromise that APCO and national police and fire associations have been discussing with Nextel and private wireless interests. Recognizing that what we have seen may be out of date, we have the following reactions:

- The "compromise plan" proposes that Nextel gets 16 MHz (8 X 8) of contiguous spectrum and may expand its service offerings and design and build broadband/cellular type networks and services.

    - The District of Columbia's Office of Chief Technology Officer points out that the concept of kHz-for-kHz spectrum swapping proposed in the compromise plan provides no consideration to the trunking efficiency, and hence, additional capacity that cellular SMR operators would receive from simple aggregation of contiguous spectrum in the band. It is also still unclear how much spectrum is actually licensed to cellular SMR operators to validate how much of the realigned 800 MHz band should be rightfully allocated to them.

- On the other hand, the plan states that public safety is getting 10 MHz (5 X 5) of contiguous spectrum and that we must continue to build "high-site, high-power" networks. In San Diego, however, this means only 3 MHz (811-814 MHz) of spectrum because of the treaty with Mexico and current channel allocations outlined in the treaty.[8] What precisely is meant by "existing proportionate" channel allocations in border areas?

- The spectrum being allocated – which is adjacent to the 700 MHz band and TV Channel 69 – in the short term may provide even worse harmful interference then currently experienced from Nextel. In the San Diego market, KSWB-TV is operating a nearly 5 megawatt station and it would be interesting to see data on the effects of this broadcast facility on adjacent 800 MHz users.

- The most critical need in the public safety community today is for high-speed mobile data. We all have voice radios. Public safety may not be able to inter-operate efficiently, but all agencies at least have radios. Most do not have high-speed mobile data.

- If public safety wants to put its eggs in the 700 MHz basket, there must be a definitive migration plan demonstrating specifically that agreement has been reached with the TV operators and that treaties are in place with Mexico and Canada which allow the

[8] The draft compromise proposes to maintain "the existing proportionate U.S. land mobile radio channels in the U.S.-Mexico and U.S.-Canada Border Areas." The City of San Diego is filing separately to discuss the ramifications of the proposal.

spectrum to be used in 2006. The technology used on that spectrum must meet the high-speed mobile data needs of the public safety community.

- There are site-by-site cases where public safety must put in place cellular-like architectures. Some examples of this are convention centers, underground facilities, high-rise buildings, trolley stations and other structures that are not covered by high-site, high-power system architecture.[9] Does the proposal intend that public safety meet the same tests suggested for commercial carriers moving from non-cellular to cellular architectures?[10] If so, we face a heavy burden.

- Please explain how public safety and private wireless licensees in the "interleaved" band can remain there.

- Philadelphia points out that the proposed compromise places a particularly heavy burden on NPSPAC licensees currently using 821-824/866-869 MHz by requiring them to move wholesale to a 6 MHz block lower in the band. For Philadelphia, this would mean moving 30 channels of trunked system, plus some 24 mobile-only, pending, and other channels, all, presumably, within a year or so of turning on a long-needed system that has taken three-plus years to implement. The disruption to police and fire users and the administrative burden of totally redoing the system are substantial; more seriously, unless fully covered by federal and/or industry funding, the cost would be prohibitive. Other NPSPAC users will be in a similar position, and some may also face the expense and disruption of re-programming a major system shortly after putting it into service.

    - Philadelphia also notes that the proposal raises serious questions about how exactly the new NPSPAC frequencies would be allocated, since it effectively opens the door to a clean-sweep reallocation within Philadelphia's Region. The Region's last wholesale re-sorting took nearly two years. Given the advent of different system types within NPSPAC ("low-power" "low-site" and traditional Astro or EDACS wide area simulcast), which have different parameters for "best" frequency allocation, the process is likely to be even more difficult and time taking now.

    - Finally, Philadelphia asserts that both the cost and NPSPAC allocation issues must be addressed in any proposal that relocates the NPSPAC users.

- NPSPAC channels are unavailable in the San Diego area.

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[9] Several commercial carriers and manufacturers have gone farther on this record and encouraged wholesale public safety migration to cell-like architectures.

[10] For example, an independent engineering demonstration of non-interference; frequency coordination; and notifications to other licensees of potential interference. Whatever the showing, the term "cellular architecture" needs to be closely defined.

Moratorium on commercial licensing at 800 MHz. If execution of an intra-800 realignment would be made easier by a brief moratorium on commercial licensing and license acquisitions in the band, we would support this.

Conditions on any long-term move to 700 MHz. Assuming that one of the intra-800 realignment plans could be accomplished relatively quickly and economically, there might be good reason to consider the 700 MHz emigration for public safety over some longer period more consistent with the DTV realities. Certainly the possibility of more public safety spectrum, beyond the 24 MHz in the 1997 Congressional allocation, is worth pursuing. However, the following caveats must be borne in mind:

Relocation costs. One PSIC member has just begun to roll out a $52 million trunked system at 800 MHz. Other members are in similar stages of new or upgraded construction, albeit for lower price tags. Understandably, none of these communities is prepared to spend millions more to relocate what they have just begun to build or operate. Emigration to 700 MHz makes no sense for these governments unless it is fully funded by others.

Prudent assignments of neighboring uses. It should go without saying that we do not want to recreate at 700 MHz the interleaving and incompatibility existing now at 800 MHz.

No decrease in public safety bandwidth. One of the prime reasons for 700 MHz emigration, as we see it, would be the promise of more spectrum. In no case should the amount available in the new location be any less than in the old -- and it should be more.

New public safety equipment. We are not opposed in principle to the idea that public safety operations can be made more spectrum-efficient and resistant to interference from other radio users. However, if moving to 6.25 kHz channels or to more selective radios were to be ordered all at once, as the price for resolving or mitigating commercial interference without

massive relocation of commercial carriers, public safety entities must be made whole for that added conversion expense.

We note that the record is mixed on narrowing channel bandwidths for general public safety uses.[11] The New York State Office for Technology (Comments, 46) supports a transition to 6.25 kHz channel widths in the interest of a "four-fold increase in available public safety channels." E.F. Johnson and SmartLink Radio would oppose such a move at this time. Johnson believes it would be more useful to ensure equipment compatibility for any intra-800 MHz relocations of public safety than to mandate spectrum efficiency in the absolute. (Comments, 4-5) We agree with E.F. Johnson, but if narrow-banding nonetheless were imposed, public safety entities must be compensated for our direct and indirect costs of conversion.

Voluntary relocations. CTIA suggests that current occupants of 800 MHz spectrum ought first attempt to agree among themselves on any relocations. If not successful, the FCC should decide. Voluntary spectrum swaps have been endorsed by a large number of commenters favoring continued local mitigation efforts. Wishing all success to local negotiation efforts that may be underway, we cannot endorse voluntary relocation as a national policy. Too many public safety authorities do not have the resources to negotiate with one interfering carrier, much less multiple commercial providers. Whether the public safety authority would be paid for any relocation could well depend on how serious a carrier is about exchanging frequencies. Moreover, without some coordination of the chain reactions, frequency swaps could result in swapping one kind of interference for another.

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[11] Narrow-banding was ordered for interoperability channels at 800 and 700 MHz, and has been implemented satisfactorily, so far as we know, in the former case. Fourth Report and Order, WT Docket 96-86, FCC 01-10, released January 17, 2001, ¶70. A migration path for General Use and State License channels was adopted in the Fifth Report and Order, FCC 02-216, released August 2, 2002.

Permanent public safety funding. Several wireless carrier commenters and their associations have endorsed paying for public safety relocations through pooling of small percentage contributions from auctions of the abandoned spectrum. More than six years ago, in its initial call for comment on public safety spectrum requirements through the year 2010, the Commission was saying the same thing. Recognizing that Congressional approval would be required, the FCC suggested:

> [A]s public safety users migrate from existing systems, the vacant spectrum could be auctioned. The auction proceeds could then be used to underwrite the migration of incumbent public safety entities to new frequencies. . . .Alternatively, auction winners could be required to pay the cost of relocation of public safety incumbents, possibly with an auction price discounted by the cost of relocation.[12]

Whatever the record compiled in response to the FCC's suggestion in 1996, we still have no permanent and reliable source of funds to keep public safety radio systems up to date, reliable and free of interference. We would be pleased to join with the agency in seeking Congressional action along these lines.

CONCLUSION

For the reasons discussed above, PSIC renews its advocacy of the principles in its opening Comments, and adds that now is the time for anticipation and prevention of commercial

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[12] Notice of Proposed Rulemaking, WT Docket 96-86, 11 FCC Rcd 12460, 12493 (1996).

interference to public safety radio rather than mere reaction. Now is the time to recognize priority for public safety licensees over demonstrably interfering commercial providers, even if these providers are operating in full compliance with FCC rules and the terms of their licenses.

Respectfully submitted,

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